Claims 1, 4-8 and 12 are amended.

Claims 9 and 10 are cancelled.

New claims 13-16 are added.

Claims 1-12 were rejected under 35 USC 112, second paragraph.

Claims 9 and 10 were rejected under 35 USC 101.

Claims 1-11 were rejected under 35 USC 102(b) over Zimmerman.

Claims 1-11 were rejected under 35 USC 103(a) over Zimmerman.

Claim 12 was rejected under 35 USC 103(a) over Zimmerman in view of Yu.

Claims 1-8 and 12-16 are here presented for reconsideration.

REMARKS

An abstract of the disclosure has been added. However, Applicants believe that the very same abstract should already be part of the application. Therefore, Applicants request entry of the attached abstract only if the abstract is not part of the application as filed.

New claim 13 is supported by original claim 1. New claim 14 is supported by original claims 9 and 11. New claim 15 is supported by the disclosure at page 5, second full paragraph. New claim 16 is supported by the disclosure at page 2, second full paragraph.

Claims 1-12 were rejected under 35 USC 112, second paragraph. Applicants request reconsideration and withdrawal of the rejection in view of the following discussion.

Applicants believe that the amendment to claim 1 overcomes the rejection and that the claim is definite in its present form.

At page 4, second full paragraph, the specification discusses what is meant by the expression "essentially" in claim 8. In view of such disclosure, one of skill in the art would understand the metes and bounds of the claims. Therefore, Applicants assert that the use of the expression "essentially" in claim 8 is definite.

Claims 4-8 materially differ from each other. For example, claim 4 covers the β crystal modification having a melting point of 224°C, while claim 5 does not cover material having such a melting point. Claims 6-8 specifies that the x-ray diffraction pattern show certain characteristics while no specific x-ray diffraction characteristics are required by claims 1, 4 or 5. Claims 6, 7 and 8 require the claimed material to possess x-ray diffraction pattern characteristics, which differ among the claims. Applicants believe that claims 4-8 conform to the requirements of 35 USC 112, second paragraph.

In claim 12, process variants (a) and (b) differ from each other in that according to variant (a) the starting material is converted as a suspension and in (b) the starting material is dissolved. Clearly, variants (a) and (b) are distinct from each other.

For the reasons discussed above, Applicants submit that the claims conform to the requirements of 35 USC 112. Therefore, Applicants request withdrawal of the rejections under 35 USC 112, second paragraph.

The rejection of claims 9 and 11 under 35 USC 101 is rendered moot by the cancellation of these claims.

Claims 1-11 were rejected under 35 USC 102 and 103 as anticipated by or obvious over Zimmerman. Applicants request reconsideration and withdrawal of these rejections for the reasons that follow.

Zimmerman discloses the present compound in free base form. In addition, Zimmerman contains a general disclosure at column 3 that salts of the disclosed compounds can be prepared and lists numerous possible acid addition salts. The salts specified include aliphatic sulfonic acid salts and the methyl- and ethyl- sulfonic acid salts are specified as examples of aliphatic sulfonic acid salts.

The Examiner takes the position that the combination of the two disclosures in Zimmerman is sufficiently specific to anticipate salt forms of the present compound. Applicants respectfully traverse this position.

Applicants first note that the general disclosure of salts at column 3 relates to all of the compounds disclosed by Zimmerman. There is nothing in the discussion at column 3 that would lead the skilled artisan to apply the general disclosure of salts specifically to the present compound. Thus, the discussion at column 3 is generic in that it is intended to apply to all of the compounds disclosed in the reference and is not properly interpreted as teaching any specific salt of any compound.

The Examiner relies on claim 23 as a teaching to make salts of the present compound and, by relying on In re Petering and In re Schaumann, asserts that the disclosure at column 3 is sufficiently specific to lead one of skill in the art to immediately envision a narrow genus of compounds which includes the mesylate salt of the present compound. However, the situation in Petering and Schaumann are readily distinguishable from the present situation because each considered whether the reference taught a *pattern of preferences* with sufficient specificity to lead the skilled artisan to immediately envision a narrow genus of compounds that included the claimed compound. In contrast, Zimmerman does not teach a preference for salt forms of the present compound and the disclosure at column 3 does not provide any direction as to which of the salt forms of the present compound might be preferred. In particular, it contains no specific disclosure that would lead one skilled in the art to select the methane sulfonic acid salt, or even the aliphatic sulfonic acid salts, of the present compound from the myriad of possibilities. Moreover, there is no indication in the reference that any salt of the present compound was actually prepared, whereas in the cited cases a substantial number of the compounds in the narrow genus were specifically disclosed. Therefore, the disclosure of Zimmerman does not anticipate the mesylate salt form of the present compound.

In addition, and in contrast to the Examiner's statements, the disclosure in column 3 of Zimmermann comprises far more than 32 salts. The reference states that compounds having at least one basic group may form acid addition salts, for example with inorganic acids, or with suitable organic carboxylic or phosphonic acids. These are broad generic terms which are further defined by subgeneric definitions, like "a phosphoric acid" (i.e. clearly not restricted H_3PO_4 , but encompassing other phosphoric acids, too), "aliphatic mono- or di-carboxylic acids", "amino acids", "aromatic carboxylic acids", "aromatic-aliphatic carboxylic acids", "heteroaromatic carboxylic acids",

"aliphatic sulfonic acids", "aromatic sulfonic acids", thus clearly comprising a huge number of possible acids. The 32 salts alluded to by the Examiner are merely exemplifications of the acids within the diverse generic and subgeneric terms. Applicants further point out that column 3, lines 42-43, of Zimmermann states that mono- and poly-acid addition salts may be formed when several basic groups are present. The compound of the present formula I clearly contains several basic groups, e.g. the piperazinyl and pyridyl moieties, and, hence, could form such poly-acid addition salts according to Zimmermann.

For the reasons discussed above, Zimmerman does not anticipate the mesylate salt of the present compound. However, even if it did, the present claims are limited to a specific form of the mesylate salt which possesses the property of being non-hydroscopic. Such claims do not generally claim the mesylate salt of the compound. Indeed, there is clearly at least one form of the mesylate salt that are not within the scope of the present claims as is demonstrated by the data on page 8 of the present specification.

Applicants further note that the anticipation rejection does not assert that the mesylate salt of the present compound was actually prepared in Zimmerman. Therefore, the existence of presently claimed β crystal modification is neither taught nor suggested by the reference. Further, Zimmermann does not teach and a person skilled in the art would not know how to obtain the beta crystal form rather than another form and, since its existence was unknown, the superior hydroscopicity properties of the beta form were unknown before the present invention was made. Accordingly, even if a general claim to the mesylate salt is anticipated by the reference, specific forms of the mesylate salt are not anticipated or rendered obvious by it.

For the reasons discussed above, Applicants request withdrawal of the rejection of claims 1-11 under 35 USC 102(b) and 103(a).

Claim 12 was rejected under 35 USC 103(a) over the combined teachings of Zimmerman and Yu. Applicants request reconsideration and withdrawal of the rejection. First, Applicants assert that claim 12 is patentable because the desired end product is novel and unobvious. In addition, with respect to the specific process conditions required by claim 12, a person skilled in the art would have been completely unaware under which conditions the beta modification is formed instead of, *inter alia,* the alpha modification. Therefore, the process of claim 12 is patentable over the combined disclosure of the references and withdrawal of the rejection is requested.

Entry of this amendment and reconsideration and allowance of the claims are requested.

Respectfully submitted,

Novartis Corporation
Patent and Trademark Dept.
564 Morris Avenue
Summit, NJ 07901-1027
~~(908) 522-6922~~

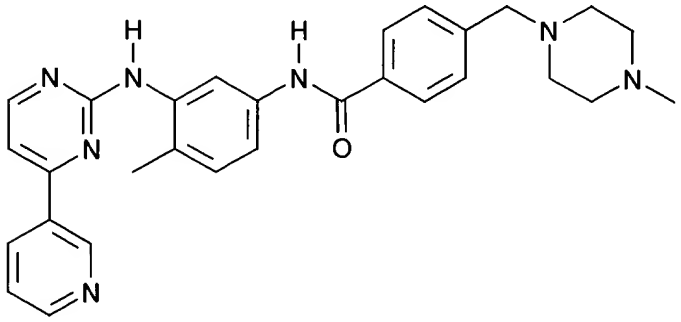
George R. Dohmann
Attorney for Applicants
Reg. No. 33,593

Date: March 28, 2001

Appendix

Marked Up Version of Amended Claims

1. (amended) A crystalline form of the monomethanesulfonic acid addition salt of a compound of formula I,



(I)

~~comprising at least 90% by weight crystals of the β-modification, said crystals of the β-modification being~~ which is non-hygroscopic ~~and remaining essentially dry~~ in a glass climatic chamber at 25 °C and relative humidities up to and including 93%.

4. (amended) A crystalline ~~The β-crystal~~ form according to claim 1 of the methanesulfonic acid addition salt of a compound of formula I, which comprises at least 99% by weight crystals of the β-modification and has a melting point below 225°C.

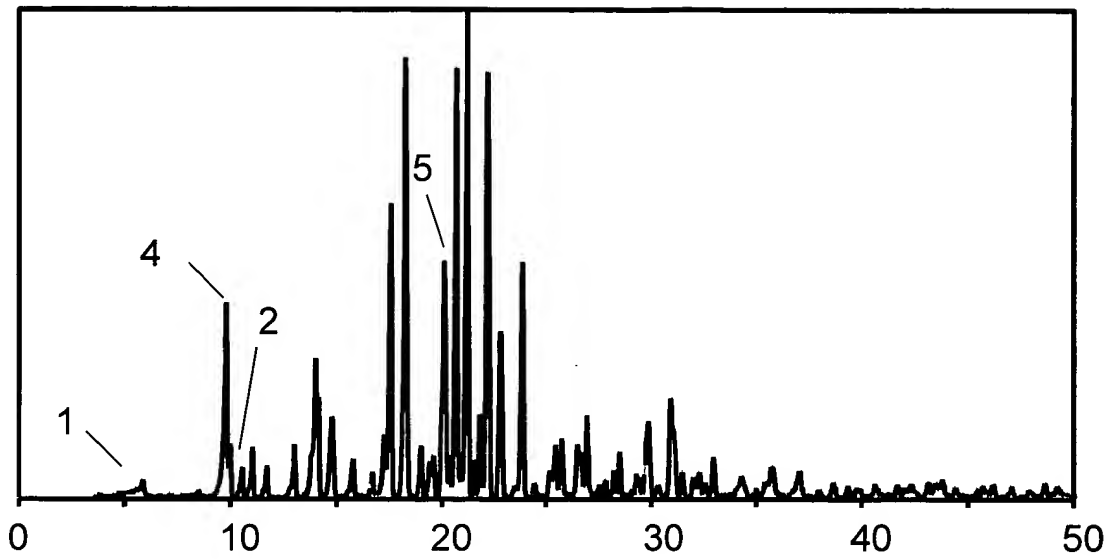
5. (amended) A crystalline ~~The β-crystal~~ form according to claim 1 of the methanesulfonic acid addition salt of a compound of formula I, which comprises at least 99% by weight crystals of the β-modification and has a melting point of less than 217°C, defined as the start of melting in the differential scanning calorimetry thermogram.

6. (amended) A crystalline ~~The β-crystal~~ form according to claim 1 of the methanesulfonic acid addition salt of a compound of formula I, which shows on X-ray diffraction a peak at an angle of refraction 2theta of 20°, said peak having a relative line intensity of about 65 as compared to the most intense line in the diagram.

7. (amended) A crystalline ~~The β-crystal~~ form according to claim 3 of the methanesulfonic acid addition salt of a compound of formula I, which shows in an X-ray diffraction diagram lines having a relative line intensity, as compared to the most intense line in the diagram, of about 20 or more at the following angles of refraction 2theta ~~(relative line intensities given in parentheses)~~: 9.7°~~(40)~~, 13.9° ~~(26)~~, 14.7°~~(23)~~, 17.5°~~(57)~~, 18.2°~~(90)~~, 20.0°~~(65)~~, 20.6°~~(76)~~, 21.1°~~(100)~~, 22.1°~~(89)~~, 22.7° ~~(38)~~, 23.8°~~(44)~~, 29.8°~~(23)~~ and 30.8°~~(20)~~.

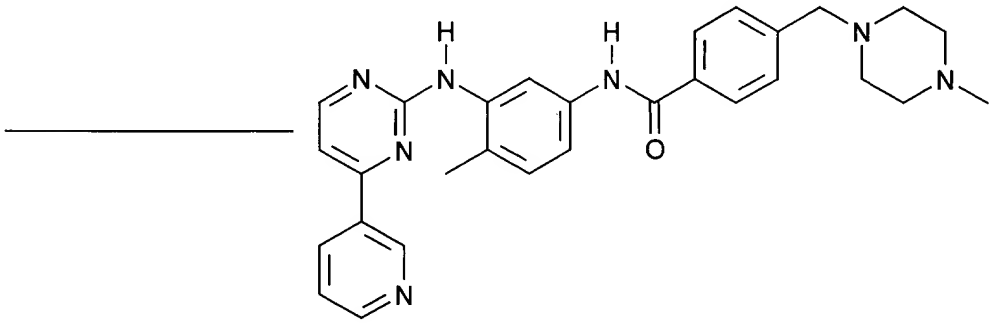
8. (amended) A crystalline ~~The β-crystal~~ form according to claim 5 of the methanesulfonic acid addition salt of a compound of formula I, which has a melting point of about 217°C, defined as the start of melting in the differential scanning calorimetry diagram, and which shows essentially the

following X-ray diffraction diagram:



wherein the angle of refraction, 2 theta, is plotted on the horizontal axis and the relative line intensity on the vertical axis.

12. (amended) A process ~~Processes~~ for the preparation of the β-crystal form ~~according to claim 1~~ of the methanesulfonic acid addition salt of a compound of formula I



~~characterised by~~ which comprises

a) digesting another crystal form or an amorphous starting material of the methanesulfonic acid addition salt of a compound of formula I with a suitable polar solvent in suspension at a temperature between 20 and 50°C, or

b) dissolving another crystal form or an amorphous starting material of the methanesulfonic acid addition salt of a compound of formula I, in a polar solvent at a suitable temperature of 25°C up to the reflux temperature of the reaction mixture, and then initiating crystallisation by adding a small amount of the β-crystal form as seed crystal at a temperature between 20 and 70°C.